

## CLAIMS

We claim:

1. An end-side anastomosis system including a fitting comprising:  
a base for attachment to a graft, said base being configured to form a seal with  
an opening in a host vessel wall;  
a leading petal having a cross-section with a radius of curvature  
approximating a radius of curvature of the host vessel, said leading petal being  
configured to dilate the host vessel wall opening while advancing said fitting through  
the opening, said fitting including links defining spaces throughout said leading petal;  
and  
a rear petal, said rear petal being deflectable to be advanced through the host  
vessel opening.
2. The system of claim 1, wherein said rear petal is deflectable toward said leading  
petal.
3. The system of claim 1, wherein said rear petal comprises a separate component  
from a portion of said fitting including said base and said leading petal.
4. The system of claim 3, wherein said base includes a slot for receiving said  
separate rear petal.
5. The system of claim 3, wherein said separate rear petal includes a locking  
mechanism for attachment of said separate rear petal to said base.
6. The system of claim 5, wherein said locking mechanism includes a hooked  
portion.

7. The system of claim 1, wherein said fitting includes side petals between said leading petal and said rear petal.

5 8. The system of claim 1, wherein at least one petal defines at least one space therethrough.

9. The system of claim 1, wherein said fitting includes extensions around said base to provide improved hemostasis.

10 10. The system of claim 1, further including a deployment sheath for housing said fitting when compressed, said sheath being configured to serve as a dilator and being adapted for removal from said fitting once said fitting is in place.

11. An end-side anastomosis fitting comprising:

15 a base having a plurality of resilient petals integral with said base and configured to extend radially out from an axial end of said base; and  
a support device secured to said base and configured to compress a host vessel wall between said resilient petals and said support device.

20 12. A deployment sheath for use with end-side anastomosis fittings comprising:  
a split sheath having at least two portions defining a lumen, each portion being configured to be separated and  
an extension attached to each said portion, each extension extending to a handle, wherein upon squeezing said handles, said portions are urged apart.

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